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(21) International Application Number: PCT/EP98/00800 (22) International Filing Date: 13 February 1998 (13.02.98) (30) Priority Data: 08/808,114 28 February 1997 (28.02.97) US (71) Applicant (for all designated States except US): SOCIÉTÉ DES PRODUITS NESTLÉ S.A. [CH/CH], P.O. Box 353, CH-1800 Vevey (CH). (72) Inventor; and (75) Inventor/Applicant (for US only): MEZIANE, Janine [FR/US]; 383 Elridge Road, Aurora, OH 44202 (US). (74) Agent: PATE, Frederick, George; Avenue Nestlé 55, CH-1800 Vevey (CH).	(51) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  Published With international search report.	
(54) Title: ICE CONFECTION WITH INCLUSIONS		
(57) Abstract  An ice confection containing a plurality of inclusions within the ice confection and a process for producing an ice confection containing a plurality of inclusions within the ice confection which comprises automatically distributing the inclusions through a fruit feeder into the ice mix.		

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# ICE CONFECTION WITH INCLUSIONS

## FIELD OF THE INVENTION

5 The present invention relates to an ice confection more particularly to an ice confection containing a plurality of inclusions within.

## BACKGROUND OF THE INVENTION

10 Water ice products are well known and are, in effect frozen, diluted and sweetened fruit juices which usually contain stabilisers such as gelatin or gums. They are very popular and they may come in various colours and flavours. They may be moulded in various shapes and are often supported on a stick. One commercially available moulded water ice product contains within a single relatively large fruit flavoured gum inclusion which is manually deposited in the mould before filling.

15 In order to be more attractive to consumers, it would be desirable to have a water ice product containing a plurality of gum or other inclusions within, possibly having a different colour or flavour to that of the water ice. We have found that the incorporation of a plurality of smaller gum inclusions may be achieved by automatically distributing the gum inclusions through a fruit feeder into the water ice mix: the method is therefore less labour intensive than manually depositing a  
20 single large gum inclusion into the water ice mix.

## SUMMARY OF THE INVENTION

25 According to the present invention, there is provided an ice confection containing a plurality of inclusions within the ice confection.

## DETAILED DESCRIPTION OF THE INVENTION

30 The ice confection may be a bar, e.g. a moulded bar and it may, if desired, be supported by a stick. The weight of the bar may be, for instance, from 20 to 100g and preferably from 40 to 80g. [2.25oz=63.8g]. The ice confection may be, for example, a water ice, a sorbet, or a sherbet. The flavour of the ice confection may

be any conventional flavour used for an ice confection, for instance, orange, lemon, lime, grape, cherry, etc. The ice confection may be either a single ice confection with inclusions or it may be a shell and core product with the inclusions within the core. In the latter case, the shell thickness is preferably from 2mm to 4mm and the shell length is preferably from 20 to 50% of the total length of the ice confection.

The inclusions may be, for instance, gum inclusions, nuts, fruit pieces, candies or chocolate pieces. The number of inclusions within the ice confection may be from 2 to 16 but preferably from 4 to 12. The maximum size of each inclusion is preferably about 1mL, and is preferably less than 0.65mL. The especially preferred size of each inclusion is from 0.2 to 0.5mL. The inclusion may be of any desired shape, e.g. butterfly, fly, larva shapes, etc.

When the inclusion is a gum inclusion, the gum of the gum inclusion is preferably gelatin but it may also be any other suitable gum such as carrageenan, xanthan gum, gum tragacanth or agar. Other ingredients of the gum inclusion may include corn syrup, sugar, citric acid, lactic acid, flavors, colors, mineral oil and carnuba wax, etc. The gum inclusions may be of various colours, e.g. orange, red, green and preferably the colour of the gum inclusion is different to the colour of the ice confection. The flavour of the gum inclusion may be, for instance, cherry, orange, grape or lime.

The present invention also provides a process for producing an ice confection containing a plurality of inclusions within the ice confection which comprises automatically distributing the inclusions through a fruit feeder into the ice mix.

In the preparation of an ice confection containing a plurality of gum inclusions within, the gum inclusions may be chilled through a freezer to a temperature from  $-1^{\circ}\text{C}$  to  $-2^{\circ}\text{C}$ , and preferably from  $-1.2^{\circ}\text{C}$  to  $-1.5^{\circ}\text{C}$  before feeding through a fruit feeder into the ice confection mix in a mould. The temperature should be such that the gums are enabled to stay suspended in the ice confection. If the temperature is too high, the gums soak and if the temperature is too low, the filling of the mould

is ineffective due to the formation of air pockets. The fruit feeder is preferably provided with a feed screw which avoids scratching the gum and also to prevent the gum inclusions sticking together which would cause clogging the pipes and filling nozzles. After the incorporation of the gum inclusions, the ice confection is frozen, e.g. in a freezing tunnel, a blast freezer or by means of liquid nitrogen, and stored, preferably at  $-25^{\circ}$  to  $-35^{\circ}\text{C}$ .

### *EXAMPLE*

The following Example further illustrates the present invention.

10

A water ice mix flavoured with a sweet intense orange flavour and colored orange with Color Pantone # 150U weighing 60.92g having a volume of 58.57ml is fed into a cylindrical mould having a length of 60mm at a temperature of  $-1.3^{\circ}\text{C}$ . Eight gum inclusions each having a volume from 0.2 to 0.4mL are chilled through a freezer to  $-1.3^{\circ}\text{C}$  and distributed through a fruit freezer by means of a screw into the water ice. The gum inclusions contain gelatin, corn syrup, sugar, citric acid, lactic acid, mineral oil and carnuba wax and each is flavored with either lime, grape or wild cherry flavor and coloured with either green, purple or red colour respectively.

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The water ice is provided with a stick and frozen in a freezing tunnel to  $-30^{\circ}\text{C}$  for storage.

## CLAIMS

1. An ice confection containing a plurality of inclusions within the ice confection.
- 5 2. An ice confection according to claim 1 which is a moulded bar.
3. An ice confection according to claim 1 which is a water ice, a sorbet, or a sherbet.
- 10 4. An ice confection according to claim 1 wherein the ice confection is either a single ice confection with inclusions.
5. An ice confection according to claim 1 wherein the ice confection is a shell and core product with the inclusions within the core.
- 15 6. An ice confection according to claim 5 wherein the shell thickness is from 2mm to 4mm and the shell length is preferably from 20 to 50% of the total length of the ice confection.
- 20 7. An ice confection according to claim 1 wherein the inclusions are gum inclusions, nuts, fruit pieces, candies or chocolate pieces.
8. An ice confection according to claim 1 wherein the number of inclusions within the ice confection is from 2 to 16.
- 25 9. An ice confection according to claim 1 wherein the size of each inclusion is from 0.2 to 0.5mL.

10. An ice confection according to claim 1 wherein, when the inclusion is a gum inclusion, the gum of the gum inclusion is gelatin. Other ingredients of the gum inclusion may include corn syrup, sugar, citric acid, lactic acid, flavors, colors, mineral oil and carnuba wax, etc.

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11. An ice confection according to claim 10 wherein the colour of the gum inclusion is different to the colour of the ice confection.

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12. A process for producing an ice confection containing a plurality of inclusions within the ice confection which comprises automatically distributing the inclusions through a fruit feeder into the ice mix.

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13. A process according to claim 12 wherein the inclusions are gum inclusions, the gum inclusions are chilled through a freezer to a temperature from -1°C to -2°C, before feeding through a fruit feeder into the ice confection mix in a mould.

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14. A process according to claim 13 wherein the fruit feeder is provided with a feed screw which avoids scratching the gum and also prevents the gum inclusions sticking together which would cause clogging the pipes and filling nozzles.

15. A process according to claim 12 wherein after the incorporation of the inclusions, the ice confection is frozen and stored.

A. CLASSIFICATION OF SUBJECT MATTER  
IPC Class. A23C 1/00 A23C 1/14

B. FIELDS SEARCHED

Major or minor classification used in addition to the above: A23C 1/00 A23C 1/14

Classification defined by or in addition to the above: in the external and/or internal classification used in the fields searched

Excluded data base consulted during the international search: name of data base and, where practical, search terms used

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category: Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No.

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see abstract  
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see page 2, line 12 - line 22  
see examples 1-3

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☒ Further documents are listed in the continuation of box C

☒ Patent family members are listed in annex

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3. Continuation: DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Number of document with publication which is appropriate to the relevant document	Page, or the claim for
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